IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Tsuyoshi YAMAMOTO et al.
Serial No. 10/697,455
Confirmation No. 7963
Filed: October 30, 2003
For: Tilt Control Method and Apparatus for Optical Disc Recording and Playback Apparatus

Art Unit: 2627
Examiner: Alunkal, Thomas D

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REPLY BRIEF

Mail Stop Appeal Brief - Patents
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Reply to Examiner's Answer

This is a Reply to the Examiner's Answer of November 13, 2007. This Appeal relates to the rejection of claims 1-12, which stand finally rejected by the final Office Action dated March 22, 2007. Applicant filed a response to the final Office Action oon May 17, 2007. An Advisory Action dated June 12, 2007 indicated that applicant's response failed to place the application in condition for allowance. The discussion herein is based on the claims as presented in the after final response.

Status of Claims

Claims 1-12 are pending. Claims 1, 3, 5, 7, 9 and 11 are independent. All claims stand finally rejected by the final Office Action dated March 22, 2007.

Grounds of Rejection to be Reviewed on Appeal

The issue presented on appeal is whether the final Office Action properly rejects claims 1-12 under 35 USC 103(a) as obvious over Park (US 2002/0060964) in view of Akagi (US 6,434,096).

Argument

Independent claims 1, 3 and 5 include a limitation that an offset adjustment signal is recorded in a test recording area provided on an optical disc while a driving signal supplied to the tilt adjustment is modified. Claim 1, for example, recites "recording an offset adjustment signal in a test recording area provided on an optical disk, wherein said offset adjustment signal is recorded while modifying a driving signal level supplied to said tilt adjustment coil.

Independent claims 7, 9 and 11 include a similar limitation of an offset adjustment signal written to the disc by the recording circuit while the tilt control circuit modifies the driving signal level to the tilt control coil, and the relationship between the driving signal level and the recording position is stored. For example, claim 7 recites, "an offset adjustment signal is written to the disc by recording a signal to the disc by said signal recording circuit while said tilt control circuit modifies the driving signal level to the tilt control circuit, and the relationship between the driving signal and recording position is stored."

Importantly, the independent claims require a driving signal level of a tilt control circuit or tilt adjustment coil to be modified such that the driving signal changes from one level to another level during the time when an offset adjustment signal is recorded onto an optical disc. In other words, the present invention requires different tilts when recording the offset adjustment signal.

The Examiner maintains that the disclosure found in column 12, lines 40-42 of Akagi implies that an optical pickup is moving, and that such movement necessarily requires that a driving signal be supplied to the tilt adjustment. However, Akagi merely teaches that the stored offset is based on the radial movement of the optical pickup. The claims, by contrast, further require that the driving signal be modified during the time that an offset adjustment signal is recorded. In this regard, the Examiner does not assert, nor does Akagi teach, a driving signal modified during the time an offset adjustment signal is recorded.

Akagi discloses in column 12, lines 18-46 that an offset amount of a tilt error signal is first stored in memory, then read from memory to correct tilt error using the tilt drive section. Operation of the tilt drive section before the step of reading from memory is not disclosed. However, Akagi goes on to teach that the tilt is not changed while the memory is being recorded on. In particular, FIG. 18 and column 35, line 33 to column 36, line 4, teaches a tilt cam 309 set to an initial angle and a tilt control circuit 312 that is turned off at step S301. After setting the initial tilt angle, the memory is then initialized at step S302. Optical pickup 302 is moved inward at step S303. The direction of movement and the offset amount is then stored in memory circuit 319 at step S304. Next, the optical pickup is moved outward, and the direction of movement and offset amount is stored in memory (step S307). Importantly, the tilt cannot be modified from its initial angle during this process since tilt control circuit 312 is set to off.

Similarly, FIG. 25 and column 40, lines 3-61 teach a tilt cam 309 set to an initial angle while tilt control circuit 312 is turned off at step S401. After the initial tilt is set, the memory is initialized at step S402. Offset values are then stored in memory depending on the movement of the optical pickup. Again, since tilt control circuit 312 is turned off, there is no change to the initial tilt angle during the recording of the offset values into memory. Furthermore, memory is initialized only after the initial tilt is set. Therefore, the initial tilt is not set while the memory is being recorded. Thus, there is clearly no modification to the tilt or to a driving signal of tilt control circuit 312 while recording the offset values. Only thereafter, when the stored values of the memory are read, at step S423 of FIG. 27, does the tilt control circuit activate to correct the tilt of any offset.

The present invention, by contrast, requires that an offset adjustment signal is recorded in a test recording area provided on an optical disc while a driving signal supplied to the tilt adjustment is modified. The recorded tilt adjustment signal is then read and the amount of offset is detected based on the tilt adjustment signal. In sum, the present invention detects the amount of offset already recorded in

memory. Therefore, the recording and reading of an offset of Akagi does not correspond to the present invention as recited in the independent claims.

Moreover, on page 16 of the Examiner's Answer, column 54, lines 6-12 of Akagi is cited for the first time, as teaching a signal written to and read from an optical disk. However, Akagi fails to disclose or suggest the signal is written while the drive current to the tilt coil is modified, and that the written signal is read, and that the offset is detected based on the read tilt adjustment signal.

For at least the reasons set forth above, independent claims 1, 3, 5, 7, 9 and 11 are submitted to clearly distinguish over Park and Akagi. Claims, 2, 4, 6, 8, 10 and 12 depend from the independent claims and contain all limitations thereof. Accordingly, the rejections of claims 1-12 under 35 USC 103(a) should be reversed.

Conclusion

Appellant respectfully requests that the final rejection of claims 1-12 be reversed, and that such claims are allowable over the art of record.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

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